Swelling of Superabsorbent Polymer. Kinetic Dryness of a Superabsorbent Polymer and the Role of Polymer in the Capacity of Absorption of the Soil

M. Bakass and A. Mokhlisse
Laboratoire de Chimie-Physique
Faculte des Sciences Semlalia
Université Cadi Ayyad
B.P. 2390, Marrakech, Maroc

M. Lallemant
Laboratoire de Recherche sur la Reactivite des Solides
URA 23 C.N.R.S. Faculte des Sciences Mirande
Université de Bourgogne, Dijon, France

The study of the kinetic dryness of a swollen polymer has shown that the reactions performed under pressure of water vapor are generally faster than those realized under controlled air and pressure. Gassing the atmosphere modifies the influence of parameters (temperature and pressure) on the kinetic reaction. The use of higher masses permits a complete modification of the kinetic regime which limits the dryness reaction: it moves from a phenomena controlled by the evaporation followed by a tridimentional diffusion of the small masses, to a phenomena governed by a tridimensional diffusion for those of the high masses heated

The study of the capacity of absorption of a superabsorbent polymer has shown that the capacity of absorption of polymer is generally dependent on the experimental conditions (pH – ions, mono- and divalent). The presence of the polymer in the soil modified the capacity of the absorption of soil, which will have as an application a reduction in water loss in the process of irrigation.